Electro-physics Branch (RPY)

Develops technology for high performance, durable power systems and component technology to meet NASA, national and U.S. industrial needs. Technology developed includes modifying material properties and surfaces such as electrical conductivity, solar reflection, solar absorption, thermal emittance, thermal conductivity and space environmental durability. Space environmental durability issues addressed include: atomic oxygen, ultraviolet radiation, thermal cycling, electric propulsion component durability, and low temperature exposure of materials, electronics and electrical components. Conducts evaluation, prediction and demonstration of space environmental durability to meet NASA missions as well as other U.S. commercial and governmental needs. Flight experiments are conducted to validate performance and durability projections based on ground laboratory testing and computational modeling.